Low-pressure mercury vapor discharge lamp having determined probability of failure

--This Application is a National Phase Application under 35 U.S.C. 371 claiming the benefit of PCT/IB04/51262 filed on 07/20/2004, which has priority based on European Patent Office (EPO) Application No. 03102327.8 filed on 07/29/2003.--

MR 11/20/07

The invention relates to a low-pressure mercury vapor discharge lamp.

In mercury vapor discharge lamps, mercury constitutes the primary component for the (efficient) generation of ultraviolet (UV) light. A luminescent layer comprising a luminescent material may be present on an inner wall of the discharge vessel to convert UV to other wavelengths, for example, to UV-B and UV-A for tanning purposes (sun panel lamps) or to visible radiation for general illumination purposes. Such discharge lamps are therefore also referred to as fluorescent lamps. Alternatively, the ultraviolet light generated may be used for manufacturing germicidal lamps (UV-C). The discharge vessel of low-pressure mercury vapor discharge lamps is usually circular and comprises both elongate and compact embodiments. Generally, the tubular discharge vessel of compact fluorescent lamps comprises a collection of relatively short straight parts having a relatively small diameter, which straight parts are connected together by means of bridge parts or via bent parts. Compact fluorescent lamps are usually provided with an (integrated) lamp cap. Normally, the means for maintaining a discharge in the discharge space are electrodes arranged in the discharge space. In an alternative embodiment the low-pressure mercury vapor discharge lamp comprises a so-called electrodeless low-pressure mercury vapor discharge lamp.

Low-pressure mercury vapor discharge lamps as mentioned in the opening paragraph are well known in the art. A disadvantage of the known low-pressure mercury vapor discharge lamp is that the spread in lifetime of the discharge lamp is relatively large. This implies that when a large number of discharge lamps is installed, e.g., in a building, the spread in lifetime of the discharge lamps makes a so-called group exchange of the discharge lamps unfavorable.

The invention has for its object to eliminate the above disadvantage wholly or partly. According to the invention, a low-pressure mercury vapor discharge lamp of the kind mentioned in the opening paragraph for this purpose comprises: